

Supervising development in petroleum industry of the Russian Federation

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Abstract. Supervising has strongly consolidated in the domestic petroleum services market of the Russian Federation. But despite the rapid growth of the supervising services market, there is a definite need for its further development. In the article, the developments of supervising in petroleum industry of the Russian Federation, as well as possible ways of its improvement are considered.

1. Introduction

Supervising in petroleum industry of the Russian Federation presents a combination of existing types of quality control. The services rendered by the supervisor could be extended and supplemented on a contractual basis considering the Customer's needs. The lack of legal norms and regulation standards in the Russian Federation Legislation results in a diversity of contractual terms and conditions. The failure to comply with these conditions often leads to the complexity and uncertainty of supervising services in the Russian Federation, as well as misunderstanding of the supervisor's role and his main functions in the production process. This creates the necessity to develop supervising activity and increase its efficiency. The purpose of this article is to assess the current issues related with supervising in petroleum industry of the Russian Federation, as well as to offer further ways of its development, taking into account the international experience.

2. Materials and methods

Historical and logical methods. The study is based on the chronological order of supervising development in the Russian Federation since the period of its origin and gradual integration into petroleum industry together with logical generalizations and consequences.

Method of scientific abstractions. The study is based on the abstraction from the amount of demands in the petroleum supervising services market of the Russian Federation. The authors consider such services as marketable.

3. Results and discussion

The modern concept of organizing oil and gas production in terms of market relations in the Russian Federation is based on the outsourcing, i.e., the involvement of third-party production resources. The main functions of the subsurface user are in the acquisition of the license, economic and organizational management. Oil and gas field services in this case are rendered by specialized service organizations.



In international practice such activity has been applied for a long period of time. The mechanism of these relations is constantly being improved developing from traditional contractual relations, providing a particular service which is a part of the whole project, to the alliance of integrated project management.

Historically, petroleum industry has undergone restructuring during the market economy development in the Russian Federation. First, it became independent from the state. Then, the following diversification of organized companies led to the emerging of the detached independent business units. Therefore, the diversification resulted in the establishment of separate organizations carrying out the single activity: drilling, repairing of equipment, transportation, etc. One of the main reasons for such restructuring was to improve the operating efficiency of specialized organizations. On the one hand, if these organizations were a part of the company, the latter should provide them with necessary equipment and materials, staff maintenance, and what is the most important - the scope of work. In case if the company fails to provide the scope of work, it will bear the substantial losses. On the other hand, these organizations were unable to search for extra work orders independently, thus being forbidden to gain extra profits from their activities [1].

Nowadays the process of maintaining oil and gas production involves a large diversity of technologically complex operations for the implementation of which expensive equipment (for example, the telemetry equipment to study wells) and highly qualified personnel are required. Self maintenance of such operations is economically unprofitable for the company. Thus, drilling, exploration and other services markets (provided by the Contractors, Subcontractors and the Suppliers) were formed. Drilling contractors have their own drilling rigs and qualified personnel, and can directly carry out the construction of oil and gas wells. In most cases the Customer organizes a tender on choosing of the Contractor. Under conditions of developed competition in the market the Customer tends to get the better and reasonable priced services. There are several ways to organize production processes: "Design-Build" and "Turnkey". For example, one of the "Turnkey" projects is field development. For the "Turnkey" field development project, not only the wells, but also the additional facilities for product transportation, accommodation, and etc. are constructed. In this case the Contractor can hire the Subcontractor who will perform certain construction works, such as well construction, under the conditions of the signed contract. At this, the General Contractor, personally, performs well construction, enters the Contracts with the Subcontractors and the Suppliers. Considering "Design-Build" project, the oil and gas company organizes itself the field development process by entering into contracts with drilling contractors, equipment suppliers, installers and other service organizations [2].

The process of oil and gas wells construction and exploration work is characterized by the complexity of production operations. The quality of the obtained results at the first stages of production could be easily lost during further production operation, due to the effect of geological, technical and technological factors, especially in the sector of oil and gas wells construction and workover. Thus the compliance with the relevant production work technology and the quality of its performance is of great importance. Therefore, in the case of "Turnkey project" or "Design-Build project" the Customer and the General Contractor have to control the quality of works performed by the Contractor and the Subcontractor carrying out supervising – technological control over the production process.

Supervising in petroleum industry of the Russian Federation is an adopted element of international experience. It is a kind of service for construction quality control, rendered to the Customer by an independent engineer (engineering organization), through the Contractor, hired for field facilities construction. Business between the Supervisor and the Customer is based on Civil Law relations. However, there are no special norms to regulate the relations between the Customer and the Supervisor in the Civil Legislation. Consequently, the Contract is designed in accordance with the Civil Code of the Russian Federation: Chapter 39 "Compensated rendering of services" - general form of Contract and its main conditions; Chapter 749 "Share of the engineer (engineering organization) in execution of

rights and liabilities of the customer” - rights and liabilities of parties, functions and relations between the Supervisor and the Customer [3].

Quality of oil and gas well construction in the Russian Federation is based on designing instruments to control the construction process of different kinds. Basic instruments for oil and gas well construction supervision in the Russian Federation are shown in Table 1.

Table 1. Basic instruments for oil and gas well construction supervision in the Russian Federation.

Legislative regulation	Parties	Subject of control
Design supervision		
1) Urban Planning Code of the Russian Federation 2) SP* 11-110-99 «Building works design supervision»	The Customer signs a Design Works Contract with the Contractor	Correspondence of the design works performance to the project documentation.
* set of rules		
Production supervision		
1) Urban Planning Code of the Russian Federation. 2) SNiP* 12-01-2004 «Construction management»	Realized by the Contractor	1) incoming control of Customer's project documentation, materials and tools applied during construction works; 2) production supervision during construction works performance and completion; 3) mid-term evaluation of the construction process.
*construction rules and regulations		
Process supervision		
1) Urban Planning Code of the Russian Federation. 2) SNiP 12-01-2004 «Construction management»	Realized by the Contractor	1) correspondence of order and structure of technological process to the regulatory standards requirements; 2) correspondence of construction works quality indexes to the requirements of project, technological and regulatory standards.
Customer supervision		
1) Urban Planning Code of the Russian Federation. 2) SNiP 12-01-2004 «Construction management»	Realized by the Customer	1) checking of Customer's license possession on materials, equipment and tools applied during construction works, as well as control over the storage and keeping conditions; 2) checking of Customer's operational control execution; 3) control over project documentation correctness and over State Inspection procedure and Local Self-Governance regulations; 4) control over construction work volume, evaluation of working conditions and correspondence to the working schedule.
State construction supervision		
1) Urban Planning Code of the Russian Federation. 2) SNiP 12-01-2004 «Construction management»	State supervision bodies	Final evaluation of the object under construction correspondence to the requirements of technical regulations, project and standard regulations, law regulations, as well as safety regulations.
Administrative supervision		
1) Administrative Violations	Law enforcement	Construction supervisory control for limiting the

Legislative regulation	Parties	Subject of control
Code of the Russian Federation 2) Law of Local Self-Governance in the Russian Federation 3) SNiP 12-01-2004 «Construction management»	authorities; Public administration; Self-governance authorities	unfavorable influence on people and territory of the construction site.
Supervising (engineering supervision, construction supervision)		
Civil Code of the Russian Federation, Article 749. No direct control.	Competent engineer or engineering organization signs Service Contract with the Customer	Providing of technical inspection over the object under construction. Combination of different types of existing controls. Supervising services could be extended on the Contract base considering Customers needs.

It becomes clear from Table 1 that there is a variety of instruments to control the quality of oil and gas well construction. The State construction supervision and the Administrative control for construction works are obligatory in accordance with the Legislation of the Russian Federation [4]. These types of supervision imply the single inspection control, which highlights the work performance for a definite period of time, thus making such control inefficient during supervising of hazardous production facility construction – oil and gas well construction. According to Table 1, from the point of self quality control, the production and operation supervision of the Contractor's work performance is inefficient. For instance, under such control the Contractor can conceal the deviations and irregularities in construction technology foreseen in work performance regulations, as well as failures which were not detected in time, due to the penalties stipulated by the Contract. In order to eliminate such precedents, the Customer undertakes technical supervision over the Contractor (see Table 1) by establishing the separate infrastructural department which is responsible to control work performance. However, Customer's internal Supervisor acts under the Heads order. Consequently, this type of supervising is also an inefficient one as the company Heads are key indicator performance oriented, thus the facts of faults and irregularities in construction process could be concealed as well. In addition to the above described instruments of oil and gas well construction quality control, the Customer may also realize design supervision. Legislation of the Russian Federation restricts the procedure of design supervision due to the fact that it could be carried out only by project developer, the representative of project design organization. By definition, design supervision is carried out to ensure compliance with the decisions contained in the project documentation of construction work performance on the site [5]. Design supervision is not compulsory and relates mainly to the Customer competence. The only instrument of oil and gas wells construction quality control, which is not enshrined in the law, is supervising [6]. It is targeted to control the Contractor's work technology performance, thus the Supervisor is constantly on-site, realizing control over the process. Supervising could comprise both individual and all duties of the Customer to control the construction process, established by the Contract from the perspective of an independent party. Involvement of the Supervisor in the production process is mandatory for oil and gas well construction industry in accordance with the Legislation of the Russian Federation [7].

In the European Union, the economic relations of construction work performance and other relations connected with construction works are governed by the Civil Law, and general forms of contracts are designed by FIDIC – International Federation of Consulting Engineers. Suggested forms of FIDIC contracts cover almost all the types of construction works relations.

Forms of FIDIC Contracts which could be applied to oil well construction depending on type of production organization:

1. Conditions of Contract for Design-Build and Turnkey, (Orange Book); the Orange Book contains all the rest forms of FIDIC Contracts, used during integrated construction works. In accordance with

this Contract, the Contractor should hand the objects of construction to the Customer after the completion of works. The objects of construction, in order to meet the Contract requirements, conditions and target purposes, should be subjected to work, performance of which is necessary for quality correspondence provision. Objects, which are outside the Contract, but considered to be necessary for the provision of quality, construction completion, further safe and efficient exploitation, are also included in the Contract terms and conditions.

The Contractor is not permitted to enter into the Subcontract for the construction of the whole complex of objects if:

(a) the agreement on buying of the materials or entering into the Subcontract, is not required from the Contractor;

(b) there is no preliminary agreement from the Customer representative on entering into the Subcontract with the other Subcontractors;

(c) no later than 28 days before work performance by the Subcontractor, the Customer representative did not receive notification from the Contractor about work initiation;

(d) the Customer did not submit fair and sensible arguments for entering into the Subcontract.

The Contractor is responsible for the compliance of all Contract terms and liabilities by the Subcontractors. The Contractor has an obligation to control work performance of the Subcontractors, their representatives and employees, as well as to detect failures to comply with their Contract liabilities.

2. Integrated Contract relations comprise the following forms of FIDIC Contracts:

- Conditions of Contract for Electrical and Mechanical Works, (Yellow Book)
- Conditions of Contract for Construction, (New Red Book)
- Conditions of Contract for Plant and Design and Build, (New Yellow Book)

3. In case of the Contract for Design-Build and Turnkey or the Integrated Contract, the Customer or the Contractor (when inviting the Subcontractor to realize the control over the work performance) is permitted to hire building consultants. Relations are regulated in accordance with the Client/Consultant Model Services Contract, (White Book), which is the analogue of Russian supervising.

4. Conclusion

Supervising as a form of legal relations is considered to be one of the priorities for the developments of economic relations of the Russian Federation. The international supervising experience is borrowed and adapted with regard to the existing reality of the relations in the Russian Federation for the production control and creation of special rules governing these relations. Thus, supervising will be mainly implemented in the development of model regulations, industry standards of supervisors' activities on the basis of foreign experience. The regulation of relations in the European countries and the Russian Federation is different. In the European countries contracts can be developed by international organizations which are the part of the legal system. In the Russian Federation contracts are protected by laws. The contract forms developed by various international organizations are rarely applied in the Russian Federation. In the Russian Federation non-standard forms of the contracts, such as supervising service contract, are often developed by the Parties on the basis of the relevant laws, regulations, normative and technical documents.

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